

36

10 in Alodyn

DART AEROSPACE LTD	Work Order:	21024
Description: Crosstube Extrusion (412 Aft)	Part Number:	D6009-129
Drawing: D6009 Rev. A	Qty:	14 12

Step	Location	Procedure	By	Date	qty
1	EXPEDITING	Open W/O	48	04.06.09	12
2	PURCHASING	Issue P/O: <u>2600521</u> a) Order as per Dwg D6009 b) Material: 3.500 x 0.625 wall 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) seamless alum tube c) Minimum ultimate tensile strength = 77 ksi d) Minimum tensile yield strength = 66 ksi e) Tolerance are per ASTM B210 (see details on Dwg D6009) f) Material certification required	UL	04.06.09	12
3	RECEIVING	Receive and Inspect for transit damage Ensure Material certification is attached	CL	04/10/15	14
4	QC	Inspect Level 6 Ensure Material certification comply to Dwg	U	04/10/25	14
5	FINISHING	Chemical conversion coat as per QSI 005 4.1	ML	04.12.14	14
6	STORES	Identify and Stock	U	04.12.14	14
7	EXPEDITING	Close W/O Cost / part <u>802,197</u> <u>546</u> <u>04/12/20</u> <u>(14)</u> Inspect Level 21 <u>802,97</u>	48	04.12.20	14

Rev	Date	Change	Revised By	Approved
A	01.08.17	New Issue	SM	EC

RELEASED

EC 01.08.17

RF
03.06.05

Dart Aerospace Ltd

Work Order:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Manuf / Design Mgr	Approval QC Inspector

NCR		WORK ORDER NON-CONFORMANCE						
DATE	STEP	Description of NC section A	Corrective Action Section B		Sign & Date	Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial					

PAR#: _____ Fault Category: _____ DQA: _____ Date: _____

NOTE: Date & initial all entries
H:\Admin-QA\ISO\forms\w\oncb.doc

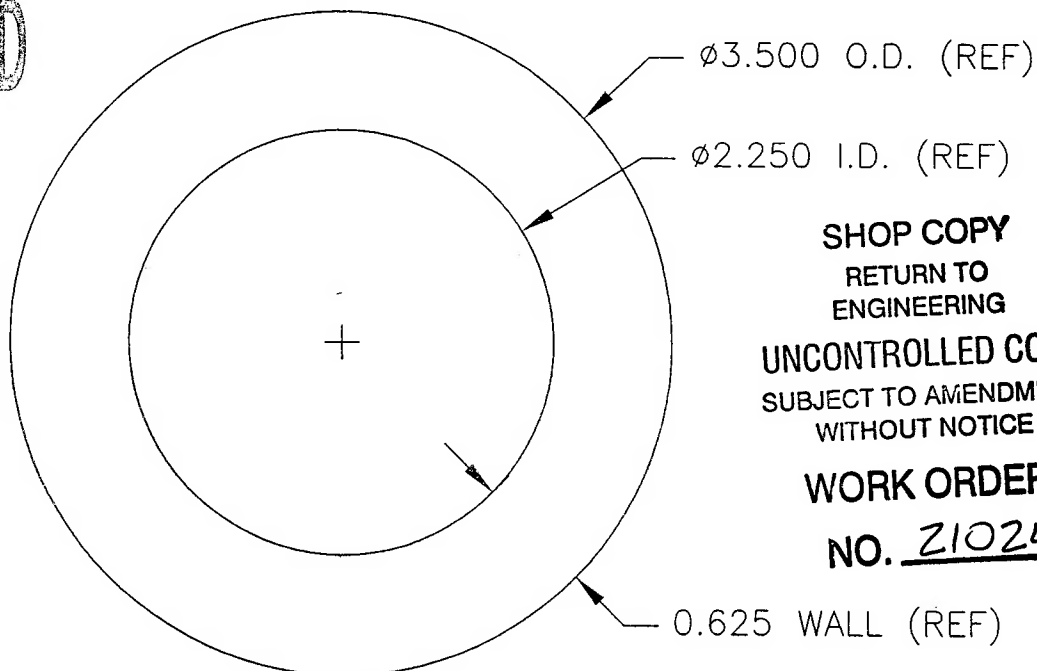
QA: N/C Closed: _____ Date: _____



DESIGN #	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6009	REV. A SHEET 1 OF 1
DATE 01.08.16		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	01.08.16	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
01.08.17 #



SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. Z1024

NOTES

- 1) D6009-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 129" LONG TUBE: D6009-129

- 2) MATERIAL: 3.500 OD x 0.625 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (± 0.016 INCLUDING OVALITY)
WALL: ± 0.020 MEAN (± 0.063 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.188/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Jun 09, 2004
09:26 am

Work Order No : 0021024
Project Name : D6009-129
Project For : WK436
Work Order Type : Main
Main WO Number :
House Part Number : D6006-129
Description : Crosstube material
Manufactured : Yes
Amount Req'd : 12
Amount Done : 0
Start Date : 06-09-04
Est Finish Date : 08-30-04
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00

Order Entry No :
OE Value : 0.00

Est Margin : 0.000%
Actual Margin : 0.000%

\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



Uelzener Weg 36 - 59425 Unna

Abnahmeprüfbescheinigung 3.1 B - EN 10204

Inspection Certificate 3.1 B - EN 10204 / Certificat de Reception 3.1 B - EN 10204

Kunde: Dart Aerospace Ltd.**Client:**1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 490/04**Cert No. / No. du certificat:****Bestellnummer:** 2006521**Order No. / No. de commande****Auftrag:** 9855/3**Our Reference/Notre Référence:****Produkt:****Product / Produit:**

Tubes seamless extruded

Spezifikation:**Specification:**

AMS QQ-A-200/11E & ASTM B 210

Werkstoff:**Alloy/Alliage:**

7075

Zustand:**Temper/État**

T 6511

Abmessung**Size / Dimension**

3,500"

x 2,250"

x 0,625"

x 129,00"

Kennzeichnung**Marking/Marquage:**

ALUnna - Cert No. 490/04 - 7075 - T 6511 - Cast No. 78595 - QQA 200/11 E - 3.500" OD X 0.625" Wall - Heat No. 231432 - Lot 9855/3-1 PO. 2006521

Lieferung**delivered Material / Matériel délivré:**

pcs.

lbs

14

1043

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
78595	0,080	0,223	1,30	0,043	2,43	0,182	5,70	0,036	0,003	0,021	0,001	<0,001	0,005

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) Psi	yield (Rp0,2) Psi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	83,520	76,270	11,0		149	231432
2	83,810	76,850	11,0		154	

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

SindermannN

Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09
Certificate No.: 001959 QM

09.09.2004

Der Werksachverständige



Uelzener Weg 36 – 59425 Unna

Abnahmeprüfbescheinigung 3.1 B - EN 10204

Inspection Certificate 3.1 B - EN 10204 / Certificat de Reception 3.1 B - EN 10204

Kunde: Dart Aerospace Ltd.
Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 493/04
Cert No. / No. du certificat:

Bestellnummer: 2006521
Order No. / No. de commande

Auftrag: 9855/2
Our Reference/Notre Reference:

Produkt: Tubes seamless extruded
Product / Produit:

Spezifikation: AMS QQ-A-200/11E & ASTM B 210
Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/État

Abmessung 3,250" x 2,220" x 0,515" x 129,00"
Size / Dimension

Kennzeichnung ALUnna - Cert No. 493/04 - 7075 - T 6511 - Cast No. 78595 - QQA 200/11 E - 3.250" OD X 0.515" Wall - Heat No.
Marking/Marquage: 231432 - Lot 9855/2-1 - PO. 2006521

Lieferung pcs. lbs
Delivered Material / Matériel délivré: 18 1052

1. Chemische Analyse Chemical Analysis / analyse chimique

Charge/ Cast No.	min. max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
				1,2		2,1	0,18	5,1						
		0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
78595		0,080	0,223	1,30	0,043	2,43	0,182	5,70	0,036	0,003	0,021	0,001	<0,001	0,005

Elements without indication < 0,01 %

2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) Psi	yield (Rp0,2) Psi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min. max.	77,0	66,0				
1	84,680	77,865	11,0		159	231432
2	85,115	78,300	12,0		168	

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

Sindermann



Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09
Certificate No.: 001959 QM

[Signature]
Der Werksachverständige

09.09.2004

Der Werksachverständige



Uelzener Weg 36 - 59425 Unna

Abnahmeprüfbescheinigung 3.1 B - EN 10204

Inspection Certificate 3.1 B - EN 10204 / Certificat de Reception 3.1 B - EN 10204

Kunde: Dart Aerospace Ltd.
Client: 1270 Aberdeen Street
 K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer:
 Cert No.: / No. du certificat:
Bestellnummer: 2006521
 Order No. / No. de commande
Auftrag: 9855/1
 Our Reference/Notre Reference:

Produkt: Tubes seamless extruded
Product / Produit:
Spezifikation: AMS QQ-A-200/11E & ASTM B 210
Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/Etat

Abmessung 2,750" x 2,000" x 0,375" x 128,00"
Size / Dimension

Kennzeichnung ALUnna - Cert No. 408/04 - 7075 - T 6511 - Cast No. 77072 - QQ A - 200/11E - 2.750" OD X 0.375" Wall - Heat No.
Marking/Marquage: 30554 - Lot 9855/1-1 PO. 2006521

Lieferung pcs. lbs
 Delivered Material / Matériel délivré: 27 974

1. Chemische Analyse Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
77072	0,102	0,207	1,42	0,046	2,39	0,193	5,68	0,044	0,006	0,023	0,001	<0,001	0,007

Elements without indication < 0,01 %

2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) Psi	yield (Rp0,2) Psi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	85,550	78,880	10,0		155	30554
2	86,275	79,750	8,0		157	30554

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

GschwindU



Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09
 Certificate No.: 001959 QM

Aluminiumwerk Unna
 Aktiengesellschaft
 Uelzener Weg 36
 59425 Unna

Der Werksachverständige

23.07.2004

Customer PO	PO. 2006521
ALUnna ref. no.	9855/2+3
Date:	10.18.04

Dart Aerospace PO. 2006521
D 6006-129 Made in Germany
Dest. Hawkesbury Ont. Canada

free from live plant pests

[illegible]

Customer PO	PO. 2006521
ALUnna ref. no.	9855/1
Date:	10.18.04

Oart Aerospace P.O. 2006521 D 6005-128
Made in Germany
Dest. Hawkesbury Ont. Canada

free from live plant pests

[illegible]

**ALUnna** Aluminiumwerk AG

Uelzener Weg 36 – 59425 Unna

Telefax

Company: Dart Aerospace
Attention: Linda Lacelle
Phone:
Fax: 001 613 632 4443

From: Nadine Sindermann
Dept.: QA
Phone: +49 2303 206 252
Fax: +49 2303 206 117
Email: sindermann@alu-unna.de
Pages: 4

Unna, 19.10.04

Re.: Inspection Certificate**PO :** 2006521**AWU ref. :** 9855/1-3

Dear Customer,

in response to your request for a new/ revised copy of our Inspection certificate, we are pleased to send this attached.

With Best Regards,
Aluminiumwerk Unna AG

